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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,755	09/24/2003	Allen P. Mardian	2269-5664US (02-1347.00/U)	4516
24247	7590	06/21/2005	EXAMINER HOPKINS, ROBERT A	
TRASK BRITT P.O. BOX 2550 SALT LAKE CITY, UT 84110			ART UNIT 1724	PAPER NUMBER

DATE MAILED: 06/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/669,755

Applicant(s)

MARDIAN ET AL.

Examiner

Robert A. Hopkins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-148 is/are pending in the application.
- 4a) Of the above claim(s) 36-44, 62-72, 80-88, 106-116 and 130-140 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21, 23, 24, 27-35, 45-56, 59-61, 73-79, 89-100, 103-105, 117-125, 141-144 and 146 is/are rejected.
- 7) ☒ Claim(s) 22, 25, 26, 57, 58, 101, 102, 126-129, 145, 147 and 148 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9-24-03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Claims 36-44,62-72,80-88,106-116,130-140 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 5-26-05.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-21,23,24,27,28 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Okase et al(2003/0141016).

Okase et al teaches a trap device(52) for removing at least one undesirable constituent from a gaseous process stream passing through a vacuum system(40) comprising a chamber(60) configured to operate at a pressure below atmospheric pressure, and at least one substance delivery element(68,72) associated with the chamber and configured to deliver at least one substance to an interior of the

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chamber(paragraph 0051). Okase et al further teaches wherein the at least one substance delivery element is configured to prevent formation of deposits comprising the at least one undesirable constituent thereon. Okase et al further teaches wherein the at least one substance delivery element is configured for modification of a temperature of at least a portion thereof. Okase et al further teaches wherein the at least one substance delivery element is configured to remove or clean deposits comprising the at least one undesirable constituent therefrom. Okase et al further teaches wherein the at least one substance delivery element is configured to deliver at least one substance comprising ammonia or water(paragraph 0051, lines 16-17). Okase et al further teaches wherein the at least one substance delivery element is configured to deliver the at least one substance to cause formation of a deposit(examiner notes that the claim is directed to structure of the trap device, and therefore since the trap device includes the required substance delivery element, the delivery element is capable of delivering any type substance to the trap chamber). Okase et al further teaches wherein the at least one substance delivery element includes at least one nozzle or atomizer(shower head 68) for delivery of the at least one substance. Okase et al further teaches a control valve(70) for controlling a rate at which the at least one substance is delivered by the at least one substance delivery element. Okase et al further teaches at least one measurement device(122) for measuring an amount of a deposit comprising the at least one undesirable constituent within the interior of the chamber. Okase et al further teaches wherein the at least one substance delivery element comprises a plurality of substance delivery elements(each

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opening of shower head 68), and wherein each substance delivery element of the plurality is arranged to deliver the at least one substance to a different location within the interior of the chamber. Okase et al further teaches wherein the at least one substance delivery element is configured to deliver more than one substance to the interior of the chamber (by closing valve and changing to a different substance). Okase et al further teaches at least one measurement device (122) for measuring at least one characteristic of a deposit (amount accumulated).

Claims 29-31, 33-35, 45-56, 59-61 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Okase et al (2003/0141016).

Okase et al teaches a trap device (52) for removing at least one undesirable constituent from a gaseous process stream passing through a vacuum system (40) comprising a chamber (60) configured to operate at a pressure below atmospheric pressure and at least one deposit interaction element (68, 72) for distributing or redistributing deposits comprising the at least one undesirable constituent formed within the chamber of the trap device. Okase et al further teaches wherein the at least one deposit interaction element is configured to cause at least a portion of the deposits to form a liquid state within the chamber of the trap device. Okase et al further teaches wherein the at least one deposit interaction element is configured to at least partially remove a deposit from at least a portion of the chamber. Okase et al further teaches wherein the at least one deposit interaction element comprises at least one delivery port (68) for delivering at least one substance within the chamber. Okase et al further teaches wherein the at least one substance delivery element is configured for

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modification of a temperature of at least a portion thereof. Okase et al further teaches wherein the at least one substance delivery element is configured to remove or clean deposits comprising the at least one undesirable constituent therefrom. Okase et al further teaches wherein the at least one substance delivery element is configured to deliver at least one substance comprising ammonia or water(paragraph 0051, lines 16-17). Okase et al further teaches wherein the at least one substance delivery element is configured to deliver the at least one substance to cause formation of a deposit(examiner notes that the claim is directed to structure of the trap device, and therefore since the trap device includes the required substance delivery element, the delivery element is capable of delivering any type substance to the trap chamber). Okase et al further teaches wherein the at least one substance delivery element includes at least one nozzle or atomizer(shower head 68) for delivery of the at least one substance. Okase et al further teaches a control valve(70) for controlling a rate at which the at least one substance is delivered by the at least one substance delivery element. Okase et al further teaches at least one measurement device(122) for measuring an amount of a deposit comprising the at least one undesirable constituent within the interior of the chamber. Okase et al further teaches wherein the at least one substance delivery element is configured to deliver more than one substance to the interior of the chamber(by closing valve and changing to a different substance). Okase et al further teaches at least one measurement device(122) for measuring at least one characteristic of a deposit(amount accumulated).

Claims 73-75, 77-79, 89-100, 103-105 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Okase et al (2003/0141016).

Okase et al teaches a vacuum system comprising a vacuum source(42), a trap device(52) for removing at least one undesirable constituent from a gaseous process stream passing through the vacuum system, the trap device having a chamber(60) configured to operate at a pressure below atmospheric pressure, wherein the trap device includes at least one deposit interaction element(68,72) for distributing or redistributing deposits comprising the at least one undesirable constituent within the chamber of the trap device. Okase et al further teaches wherein the at least one deposit interaction element is configured to cause at least a portion of the deposits to form a liquid state within the chamber of the trap device. Okase et al further teaches wherein the at least one deposit interaction element is configured to at least partially remove a deposit from at least a portion of the chamber. Okase et al further teaches wherein the at least one deposit interaction element comprises at least one delivery port(68) for delivering at least one substance within the chamber. Okase et al further teaches wherein the at least one substance delivery element is configured for modification of a temperature of at least a portion thereof. Okase et al further teaches wherein the at least one substance delivery element is configured to remove or clean deposits comprising the at least one undesirable constituent therefrom. Okase et al further teaches wherein the at least one substance delivery element is configured to deliver at least one substance comprising ammonia or water(paragraph 0051, lines 16-17). Okase et al further teaches wherein the at least one substance delivery element is

configured to deliver the at least one substance to cause formation of a deposit(examiner notes that the claim is directed to structure of the trap device, and therefore since the trap device includes the required substance delivery element, the delivery element is capable of delivering any type substance to the trap chamber). Okase et al further teaches wherein the at least one substance delivery element includes at least one nozzle or atomizer(shower head 68) for delivery of the at least one substance. Okase et al further teaches a control valve(70) for controlling a rate at which the at least one substance is delivered by the at least one substance delivery element. Okase et al further teaches at least one measurement device(122) for measuring an amount of a deposit comprising the at least one undesirable constituent within the interior of the chamber. Okase et al further teaches wherein the at least one substance delivery element is configured to deliver more than one substance to the interior of the chamber(by closing valve and changing to a different substance). Okase et al further teaches at least one measurement device(122) for measuring at least one characteristic of a deposit(amount accumulated).

Claims 29,32 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Sawayama et al(2003/0164225).

Sawayama et al teaches a trap device for removing at least one undesirable constituent from a gaseous process stream passing through a vacuum system(6002,6003) comprising a chamber(6018) configured to operate at a pressure below atmospheric pressure and at least one deposit interaction element(6019) for distributing or redistributing deposits comprising the at least one undesirable constituent

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formed within the chamber of the trap device. Sawayama et al further teaches wherein the at least one deposit interaction element is configured to facilitate formation of a deposit in at least one region of the chamber.

Claims 73,76 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Sawayama et al(2003/0164225).

Sawayama et al teaches a vacuum system comprising a vacuum source(6002) and a trap device for removing at least one undesirable constituent from a gaseous process stream passing through a vacuum system(6002,6003) , the trap device having a chamber(6018) configured to operate at a pressure below atmospheric pressure , wherein the trap device includes at least one deposit interaction element(6019) for distributing or redistributing deposits comprising the at least one undesirable constituent formed within the chamber of the trap device. Sawayama et al further teaches wherein the at least one deposit interaction element is configured to facilitate formation of a deposit in at least one region of the chamber.

Claims 117-124,141,146 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Sawayama et al(2003/0164225).

Sawayama et al teaches a method for forming deposits within a trap device having a chamber(6018 in figure 30) configured to remove at least one undesirable constituent from a gaseous stream passing through a vacuum system(6002,6003) comprising causing a pressure below atmospheric pressure within a chamber of the trap device, and influencing distribution or redistribution of deposits comprising the at least one undesirable constituent within the chamber of the trap device during the operation

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thereof. Sawayama et al further teaches wherein influencing the distribution of deposits within the trap device comprises promoting formation of the deposits within at least a region of the chamber. Sawayama et al further teaches wherein influencing the distribution of deposits within the trap device comprises introducing a substance(filament 6019) within the chamber of the trap device. Sawayama et al further teaches forming a precipitate within the gaseous process stream within the chamber of the trap device. Sawayama et al further teaches wherein forming a precipitate comprises forming a precipitate comprising at least one of titanium, titanium dioxide, HCl, water, and ammonia chloride. Sawayama et al further teaches controlling a rate of Sawayama et al further teaches wherein influencing the distribution of deposits within the trap device comprises inhibiting formation of the deposits within at least a region of the chamber. Sawayama et al further teaches measuring an operating condition of the trap device(pressure gauge(6014). Sawayama et al further teaches wherein influencing the distribution or redistribution of deposits within the chamber of the trap device comprises accumulating deposits within at least one selected region therein. Sawayama et al further teaches wherein influencing the distribution or redistribution of deposits within the chamber of the trap device comprises causing the chamber of the trap device to fill with deposits of constituents removed from the gaseous process stream passing therethrough in a substantially uniform manner therein.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 117,121,125,141,142,143,144 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Ohba et al(RE36925).

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Ohba et al teaches a method for forming deposits within a trap device having a chamber(202) configured to remove at least one undesirable constituent from a gaseous stream passing through a vacuum system(113) comprising causing a pressure below atmospheric pressure within a chamber of the trap device, and influencing distribution or redistribution of deposits comprising the at least one undesirable constituent within the chamber of the trap device during the operation thereof(by cleaning medium from supply pipe 203; column 8 lines 64-68). Ohba et al further teaches wherein influencing the distribution or redistribution of deposits within the chamber of the trap device comprises introducing a substance within the chamber of the trap device. Ohba et al further teaches controlling a rate of introduction(valve V10) of the substance within the chamber). Ohba et al further teaches wherein influencing the distribution or redistribution of deposits within the chamber of the trap device comprises chemically inhibiting formation of deposits or removing deposits along a substantially continuous path through the chamber of the trap device.

Allowable Subject Matter

Claims 22,25,26,57,58,101,102,126-129,145,147,148 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 22 recites "wherein the at least one substance delivery element comprises a plurality of substance delivery elements and a first substance delivery element of the plurality is configured to deliver a first substance and a second substance delivery

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element of the plurality is configured to deliver a second, different substance to the interior of the chamber". Okase et al teaches a plurality of substance delivery elements(shower head 68), however each substance delivery element delivers the same substance. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide wherein the at least one substance delivery element comprises a plurality of substance delivery elements and a first substance delivery element of the plurality is configured to deliver a first substance and a second substance delivery element of the plurality is configured to deliver a second, different substance to the interior of the chamber because Okase et al does not suggest such a modification.

Claim 25 recites "wherein the at least one characteristic of the deposit comprises thickness of the deposit". Okase et al teaches a measurement device for measuring an amount of deposit formed. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide a measurement device wherein the at least one characteristic of the deposit comprises thickness of the deposit because Okase et al does not suggest such a modification.

Claim 26 recites "wherein the at least one substance delivery element is configured to deliver a first substance within the chamber of the trap device according to a first range of the at least one characteristic of the deposit measured by the at least one measurement device and a second substance according to a second range of the at least one characteristic of the deposit measured by the at least one measurement device". Okase et al teaches a measurement device for measuring an amount of

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deposit formed, and the delivery of the substance does not depend on the reading of the measurement device. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide wherein the at least one substance delivery element is configured to deliver a first substance within the chamber of the trap device according to a first range of the at least one characteristic of the deposit measured by the at least one measurement device and a second substance according to a second range of the at least one characteristic of the deposit measured by the at least one measurement device because Okase et al does not suggest such a modification.

Claims 57 and 101 recite "further comprising a control device in communication with the measurement device signal configured to alter the delivery of the at least one substance in response thereto". Okase et al does teach a control device (124) in communication with the measurement device, however the control device is not configured to alter the delivery of the at least one substance in response thereto. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide a control device in communication with the measurement device signal configured to alter the delivery of the at least one substance in response thereto because Okase et al does not suggest such a modification.

Claims 58 and 102 recites "wherein the at least one characteristic of the deposit is a thickness of the deposit". Okase et al teaches a measurement device for measuring an amount of deposit formed. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide a measurement device wherein the

at least one characteristic of the deposit is a thickness of the deposit because Okase et al does not suggest such a modification.

Claim 126 recites "wherein introducing a substance within the chamber of the trap device comprises introducing the substance within the chamber at more than one location". Both Sawayama et al and Ohba et al teach introducing a substance within a single location. Okase et al teaches introduction at more than one location , however Okase et al requires stopping operation of the trap device to provide the introduction of a substance. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide introducing a substance within the chamber of the trap device which comprises introducing the substance within the chamber at more than one location because none of Sawayama et al, Ohba et al , and Okase et al suggest such a modification.

Claim 127 recites "further comprising altering the introduction of the substance in response to the measurement". Sawayama et al teaches a measurement device, however the measurement device does not alter the introduction of the substance in response to the measurement. Ohba et al does not teach a measurement device. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide a step of altering the introduction of the substance in response to the measurement because neither Sawayama et al nor Ohba et al suggest such a modification. Claims 128 and 129 depend on claim 127 and hence would also be allowable upon incorporation of claims 127 and 121 into claim 117.

Claim 145 recites "wherein influencing the distribution or redistribution of deposits within the chamber of the trap device comprises removing deposits along a substantially continuous path therethrough in relation to the measurement exceeding a predetermined value". Sawayama et al teaches a measurement device for measuring a pressure, and the delivery of the substance does not depend on the reading of the measurement device. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide a step of removing deposits along a substantially continuous path therethrough in relation to the measurement exceeding a predetermined value because Sawayama et al does not suggest such a modification.

Claims 147 and 148 recite "wherein influencing the distribution or redistribution of deposits within the chamber of the trap device comprises... in response to the measuring". Sawayama et al teaches a measurement device for measuring a pressure, and the delivery of the substance does not depend on the reading of the measurement device. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide a step of influencing the distribution or redistribution of deposits within the chamber of the trap device comprises... in response to the measuring because Sawayama et al does not suggest such a modification.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert A. Hopkins whose telephone number is 571-272-1159. The examiner can normally be reached on Monday-Friday, 7am-4pm, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Rah.
June 16, 2005

ROBERT A. HOPKINS
PRIMARY EXAMINER

Robert A. Hopkins
A.U. 1724